



FACT SHEET
NTIA Report 08-451 Assessment of Alternative Future
Federal Land Mobile Radio Systems

In response to President Bush's initiative to promote the development and implementation of a United States spectrum policy for the 21st Century, the National Telecommunications and Information Administration (NTIA) is developing analytical approaches, software tools, and engineering techniques for evaluating and improving the efficiency and effectiveness of federal spectrum use.

To evaluate the efficiency of federal spectrum use, NTIA performed the study, documented in NTIA Report 08-451, that assesses several hypothetical LMR system designs and projected levels of federal agency participation to develop a comparison of the spectrum resources used by alternative trunked LMR system designs and conventional LMR systems. The study quantifies the spectrum efficiency gains that can be achieved through the implementation of narrowband (12.5 kHz) trunked technologies over conventional technologies. Based on this study, NTIA concludes that shared trunked LMR systems can be designed to use fewer spectrum resources as compared to individual conventional LMR systems, while still achieving the same Grade of Service requirements. This study considered the 162-174 MHz federal LMR band in the Washington, D.C. area because it represents a spectrally congested environment and the most heavily used federal LMR frequency band. However, the methodology is general and could be applied to other LMR bands in spectrally congested areas.

In addition to the study documented in NTIA Report 08-451, NTIA has examined frequency assignment techniques and usage of the federal LMR bands in the following staff reports.

- NTIA Report 07-447, *Assessment of Federal and Non-Federal Land Mobile Radio Frequency Assignment Methodologies* (May 2007) assesses different analysis algorithms using in assigning frequencies in the LMR bands.
- NTIA Report 06-440, *Federal Land Mobile Operations in the 162- 174 MHz Band in the Washington, D.C., Area Phase 1: Study of Agency Operations* (August 2006) analyzes federal frequency assignment data to assess the geographic coverage of existing conventional LMR systems.
- NTIA Report 07-448, *Measurements to Characterize Land Mobile Channel Occupancy for Federal bands 162 - 174 MHz and 406 - 420 MHz in the Washington, D.C. Area* (July 2007) documents the results of channel occupancy measurements performed in the 162 - 174 MHz and 406.1 - 420 MHz LMR bands in the Washington DC area.

Based on these studies and input from the federal agencies, NTIA is preparing a report that will propose a series of technical and policy recommendations to improve spectrum efficiency in the federal LMR bands.